

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P333007-930

Luminaire Tested: **S124RDIP-S1195D1035U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333007-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D1035U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6850.7 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

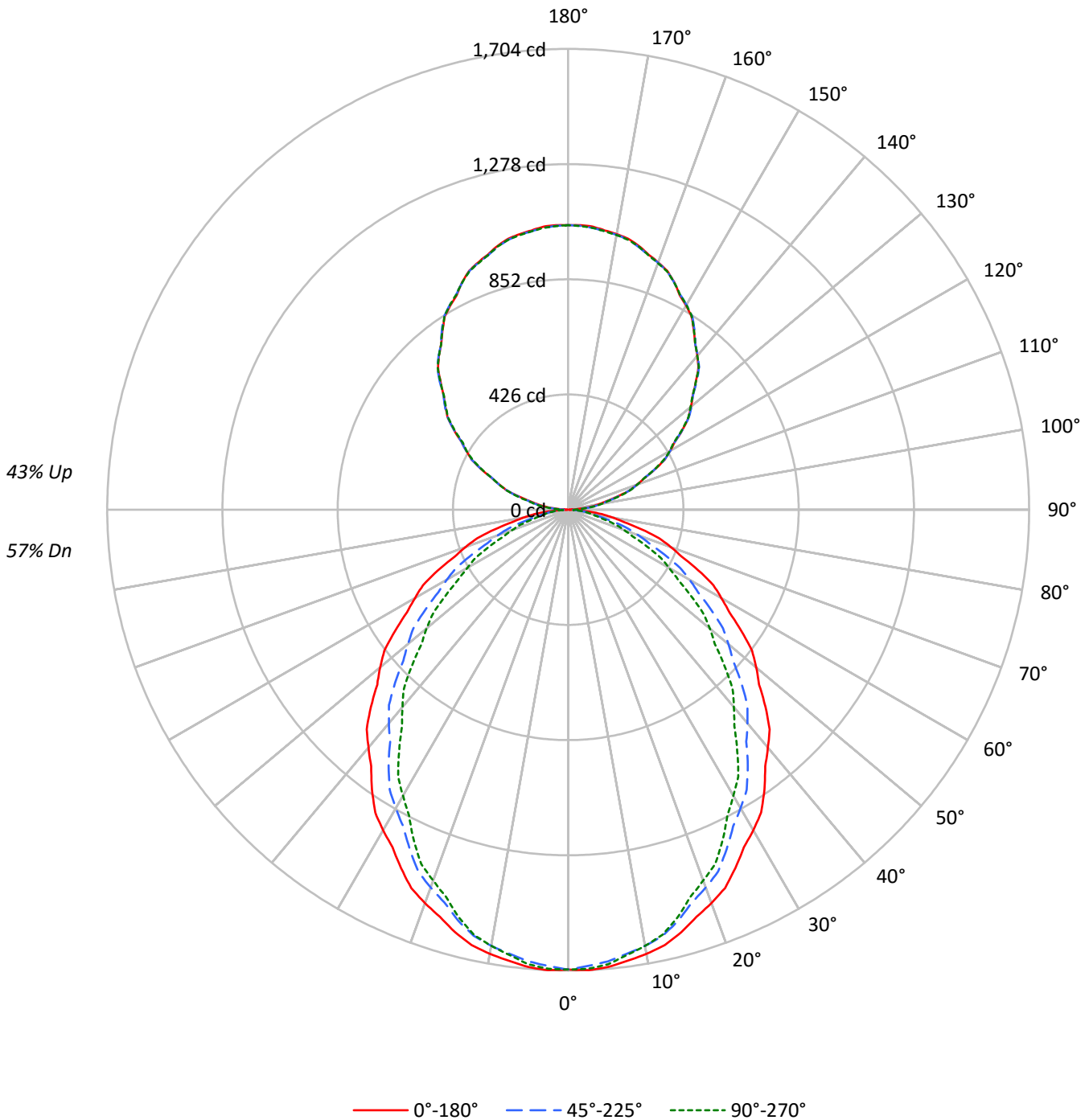
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63
1	100	95	92	88	93	89	86	83	77	75	73	66	64	63	56	55	54
2	91	84	78	73	85	78	73	68	68	64	61	59	56	53	50	48	46
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	42	39
4	76	66	58	52	71	61	54	49	54	48	44	46	42	39	40	37	34
5	70	59	51	45	65	55	48	42	48	42	38	42	37	34	36	33	30
6	65	53	45	39	60	50	42	37	44	38	33	38	33	30	33	29	26
7	60	48	40	34	56	45	38	33	40	34	30	35	30	27	30	26	24
8	56	43	36	30	52	41	34	29	36	30	26	32	27	24	28	24	21
9	52	40	32	27	48	38	31	26	33	28	24	29	25	21	26	22	19
10	49	37	29	24	45	35	28	23	31	25	21	27	23	19	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13726	13726	13726
5°	13757	13588	13674
10°	13671	13426	13426
15°	13514	13143	13046
20°	13298	12773	12538
25°	13023	12339	12026
30°	12755	11882	11384
35°	12458	11406	10738
40°	12101	10866	10043
45°	11772	10330	9334
50°	11396	9712	8584
55°	10994	9070	7769
60°	10551	8365	6936
65°	10147	7484	6117
70°	9557	6515	5193
75°	8812	5402	4223
80°	7685	4114	3873
85°	6512	3742	3492



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	2.3
10°-20°	445.4	6.5
20°-30°	643.1	9.4
30°-40°	729.0	10.6
40°-50°	704.0	10.3
50°-60°	585.4	8.5
60°-70°	404.2	5.9
70°-80°	204.9	3.0
80°-90°	55.7	0.8
90°-100°	69.4	1.0
100°-110°	205.6	3.0
110°-120°	348.9	5.1
120°-130°	460.1	6.7
130°-140°	516.7	7.5
140°-150°	507.8	7.4
150°-160°	427.1	6.2
160°-170°	284.1	4.1
170°-180°	99.5	1.5
0°-30°	1248.2	18.2
0°-40°	1977.3	28.9
0°-60°	3266.6	47.7
0°-90°	3931.4	57.4
90°-120°	623.9	9.1
90°-150°	2108.6	30.8
90°-180°	2919.0	42.6
0°-180°	6850.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1698	1692	1677	1689	1687	161
15°	1617	1604	1573	1570	1561	455
25°	1462	1437	1385	1364	1350	673
35°	1264	1221	1157	1114	1090	790
45°	1031	981	905	843	818	795
55°	781	727	644	579	552	698
65°	531	474	392	338	320	524
75°	282	234	173	144	135	298
85°	70	46	40	38	38	79
90°	2	11	18	23	24	6
95°	49	56	62	64	64	54
105°	190	191	194	196	198	201
115°	355	355	353	352	352	350
125°	517	517	516	514	513	460
135°	666	671	671	670	667	515
145°	810	813	814	813	810	507
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1704.4	1703.5	1702.6	1701.6	1700.7	1699.0	1696.5	1693.9	1691.3	1688.8	1691.3
5°	1697.6	1696.5	1695.3	1694.2	1693.1	1690.7	1687.3	1683.8	1680.3	1676.8	1679.7
7.5°	1682.3	1681.1	1679.8	1678.6	1677.4	1674.5	1670.1	1665.6	1661.0	1656.5	1658.4
10°	1667.7	1666.2	1664.8	1663.4	1661.9	1658.6	1653.4	1648.2	1643.0	1637.8	1638.9
12.5°	1648.9	1647.3	1645.6	1643.9	1642.3	1638.3	1632.2	1626.1	1619.9	1613.8	1614.5
15°	1616.9	1614.3	1611.8	1609.2	1606.5	1601.6	1594.4	1587.1	1579.9	1572.6	1572.1
17.5°	1578.2	1574.3	1570.6	1566.8	1563.1	1556.9	1548.2	1539.5	1530.8	1522.2	1520.5
20°	1547.9	1544.2	1540.4	1536.7	1532.9	1526.1	1516.3	1506.4	1496.6	1486.8	1484.4
22.5°	1514.6	1510.4	1506.2	1501.9	1497.7	1490.4	1479.8	1469.3	1458.7	1448.2	1444.7
25°	1462.0	1456.8	1451.6	1446.4	1441.2	1432.6	1420.8	1408.9	1397.1	1385.2	1380.3
27.5°	1406.8	1400.3	1393.8	1387.2	1380.6	1371.1	1358.4	1345.7	1333.0	1320.4	1314.3
30°	1368.3	1361.1	1353.8	1346.5	1339.4	1328.9	1315.3	1301.7	1288.2	1274.6	1267.3
32.5°	1327.6	1319.5	1311.3	1303.2	1295.0	1283.9	1269.8	1255.8	1241.7	1227.7	1219.3
35°	1264.1	1254.8	1245.6	1236.3	1227.1	1215.2	1200.8	1186.3	1171.8	1157.4	1147.5
37.5°	1196.2	1186.6	1177.0	1167.5	1158.0	1145.2	1129.2	1113.1	1097.1	1081.1	1070.1
40°	1148.3	1138.7	1129.2	1119.7	1110.0	1097.1	1080.6	1064.0	1047.6	1031.1	1019.0
42.5°	1102.4	1092.4	1082.4	1072.4	1062.4	1048.8	1031.6	1014.4	997.3	980.1	967.7
45°	1031.1	1020.3	1009.7	999.0	988.3	974.2	956.9	939.6	922.2	904.8	890.6
47.5°	957.4	946.3	935.3	924.2	913.2	898.6	880.6	862.5	844.5	826.5	811.7
50°	907.4	896.1	884.8	873.6	862.3	847.3	828.8	810.3	791.8	773.3	758.9
52.5°	856.4	845.3	834.3	823.2	812.2	797.1	778.2	759.2	740.2	721.2	706.5
55°	781.1	769.6	758.0	746.4	734.8	719.7	700.8	682.1	663.2	644.4	629.4
57.5°	706.6	694.6	682.6	670.6	658.5	643.3	624.8	606.2	587.7	569.2	553.9
60°	653.5	642.0	630.4	618.8	607.2	592.2	573.7	555.2	536.6	518.1	503.1
62.5°	605.6	593.6	581.6	569.6	557.5	542.0	523.0	504.0	485.0	466.1	452.2
65°	531.2	518.7	506.3	493.8	481.4	465.9	447.4	428.9	410.4	391.8	379.4
67.5°	453.8	441.9	430.0	418.1	406.2	391.6	374.4	357.3	340.1	322.9	312.2
70°	404.9	392.7	380.6	368.4	356.3	341.9	325.5	309.0	292.5	276.0	266.4
72.5°	352.8	341.9	330.8	319.8	308.8	295.5	280.0	264.4	248.8	233.3	225.1
75°	282.5	271.8	261.1	250.4	239.7	227.6	213.9	200.3	186.8	173.2	166.5
77.5°	211.2	202.1	193.0	183.9	174.8	164.8	153.8	142.8	131.8	120.8	116.9
80°	165.3	156.9	148.5	140.1	131.8	123.3	114.5	105.9	97.2	88.5	87.6
82.5°	125.8	118.1	110.4	102.6	95.0	88.6	83.6	78.7	73.7	68.7	68.1
85°	70.3	64.5	58.7	52.9	47.1	43.9	43.0	42.1	41.3	40.4	39.8
87.5°	24.5	23.0	21.5	20.1	18.6	17.9	18.0	18.0	18.1	18.2	18.2
90°	2.4	4.4	6.4	8.4	10.4	12.1	13.5	15.0	16.5	17.9	19.0
92.5°	17.4	19.7	21.9	24.2	26.5	28.2	29.2	30.2	31.2	32.2	32.9
95°	48.8	50.5	52.1	53.7	55.4	56.7	58.0	59.4	60.6	61.9	62.4
97.5°	85.3	86.6	87.9	89.2	90.5	91.9	93.4	94.8	96.4	97.8	98.5
100°	113.9	114.6	115.4	116.1	116.8	118.0	119.6	121.2	122.9	124.5	124.9
102.5°	143.9	144.1	144.5	144.7	145.0	145.9	147.4	148.9	150.3	151.9	152.4
105°	189.6	189.8	190.0	190.1	190.4	190.8	191.5	192.2	193.0	193.7	194.2
107.5°	237.7	237.8	238.1	238.3	238.5	238.6	238.8	238.9	239.0	239.1	239.6
110°	270.2	270.5	270.9	271.3	271.7	271.7	271.5	271.3	271.2	271.0	270.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.0	304.1	304.2	304.3	304.4	304.2	303.9	303.5	303.2	302.9	302.8
115°	354.8	354.8	354.8	354.8	354.8	354.7	354.2	353.9	353.5	353.2	353.0
117.5°	402.7	402.8	402.9	403.1	403.2	403.2	402.9	402.7	402.4	402.2	401.5
120°	434.6	435.3	436.0	436.8	437.5	437.6	437.0	436.4	435.9	435.4	434.5
122.5°	467.7	468.1	468.3	468.6	468.9	469.0	468.7	468.4	468.1	467.9	467.3
125°	516.7	516.7	516.7	516.7	516.7	516.7	516.5	516.3	516.1	515.9	515.6
127.5°	561.2	561.7	562.2	562.8	563.4	563.5	563.2	562.9	562.6	562.3	562.0
130°	592.4	593.0	593.5	594.0	594.6	594.8	594.8	594.8	594.8	594.8	594.5
132.5°	624.4	624.8	625.1	625.5	625.9	626.1	625.9	625.7	625.6	625.5	625.1
135°	666.5	667.6	668.6	669.8	670.8	671.4	671.4	671.4	671.4	671.4	671.0
137.5°	712.4	712.9	713.4	713.9	714.4	714.8	715.1	715.4	715.7	716.0	715.5
140°	743.0	743.3	743.7	744.0	744.4	744.6	744.6	744.6	744.6	744.6	744.4
142.5°	770.9	771.4	771.7	772.1	772.4	772.5	772.4	772.3	772.1	771.9	771.9
145°	809.7	810.4	811.1	811.9	812.6	813.0	813.3	813.4	813.6	813.8	813.6
147.5°	848.2	849.0	849.9	850.8	851.6	852.0	851.8	851.7	851.5	851.4	851.3
150°	871.6	872.3	873.0	873.8	874.5	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	893.7	894.1	894.5	895.0	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1693.9	1696.5	1699.0	1700.1	1699.9	1699.7	1699.4	1699.2
5°	1682.6	1685.5	1688.4	1689.5	1689.0	1688.4	1687.8	1687.3
7.5°	1660.2	1662.1	1663.9	1664.4	1663.5	1662.6	1661.6	1660.7
10°	1640.1	1641.2	1642.4	1642.4	1641.2	1640.1	1638.9	1637.8
12.5°	1615.2	1615.9	1616.6	1616.1	1614.5	1612.9	1611.3	1609.6
15°	1571.5	1570.9	1570.3	1569.0	1567.0	1565.0	1563.0	1561.0
17.5°	1518.9	1517.3	1515.6	1513.4	1510.3	1507.2	1504.1	1501.0
20°	1482.1	1479.8	1477.5	1474.5	1470.7	1467.0	1463.1	1459.4
22.5°	1441.3	1437.8	1434.4	1431.1	1428.0	1424.9	1421.9	1418.8
25°	1375.3	1370.4	1365.5	1361.6	1358.7	1355.8	1352.9	1350.1
27.5°	1308.2	1302.1	1296.1	1290.9	1286.8	1282.6	1278.5	1274.3
30°	1260.0	1252.9	1245.6	1239.7	1235.0	1230.4	1225.8	1221.2
32.5°	1210.9	1202.5	1194.1	1187.7	1183.3	1178.9	1174.5	1170.1
35°	1137.7	1127.9	1118.0	1110.5	1105.3	1100.1	1094.9	1089.6
37.5°	1059.1	1048.1	1037.1	1029.0	1023.8	1018.6	1013.4	1008.2
40°	1006.8	994.7	982.5	973.8	968.6	963.4	958.2	953.0
42.5°	955.3	942.9	930.5	921.6	916.2	910.8	905.3	899.8
45°	876.4	862.3	848.1	838.4	833.2	828.0	822.8	817.6
47.5°	797.0	782.4	767.7	757.4	751.7	746.0	740.2	734.5
50°	744.4	729.9	715.4	705.5	700.0	694.5	689.0	683.5
52.5°	691.9	677.2	662.4	652.2	646.5	640.8	635.0	629.3
55°	614.3	599.3	584.2	574.0	568.5	563.0	557.5	552.0
57.5°	538.7	523.3	508.1	498.4	494.2	490.0	485.8	481.7
60°	488.0	473.0	458.0	448.2	443.5	438.9	434.2	429.6
62.5°	438.3	424.4	410.5	401.7	398.0	394.4	390.6	386.9
65°	367.0	354.6	342.1	334.1	330.7	327.2	323.8	320.2
67.5°	301.5	290.7	280.1	272.8	269.0	265.1	261.3	257.5
70°	256.9	247.4	237.8	231.6	228.7	225.8	222.9	220.0
72.5°	217.0	208.8	200.6	195.3	192.6	190.0	187.3	184.6
75°	159.9	153.2	146.5	142.4	140.6	138.8	137.1	135.4
77.5°	113.1	109.2	105.3	103.1	102.6	102.1	101.6	101.0
80°	86.8	85.9	85.0	84.5	84.2	83.9	83.6	83.3
82.5°	67.5	66.9	66.2	65.7	65.5	65.1	64.9	64.6
85°	39.2	38.6	38.1	37.7	37.7	37.7	37.7	37.7
87.5°	18.1	18.1	18.1	18.3	18.6	18.8	19.2	19.5
90°	20.1	21.2	22.3	23.0	23.3	23.7	24.1	24.4
92.5°	33.5	34.2	34.8	35.3	35.5	35.7	36.0	36.1
95°	62.9	63.5	64.0	64.3	64.3	64.3	64.3	64.3
97.5°	99.1	99.8	100.4	100.8	100.8	100.8	100.8	100.8
100°	125.2	125.6	126.0	126.1	126.1	126.1	126.1	126.1
102.5°	152.9	153.4	153.8	154.2	154.3	154.5	154.7	154.7
105°	194.8	195.3	195.8	196.4	196.9	197.5	198.0	198.5
107.5°	240.1	240.6	241.1	241.3	241.3	241.2	241.2	241.2
110°	270.3	269.9	269.5	269.6	270.2	270.7	271.3	271.8



TEST NUMBER: P333007-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	302.7	302.6	302.6	302.6	302.7	302.8	303.0	303.0
115°	352.8	352.6	352.5	352.3	352.1	351.9	351.7	351.6
117.5°	401.0	400.3	399.7	399.3	398.8	398.5	398.1	397.8
120°	433.6	432.7	431.8	431.5	431.9	432.2	432.6	432.9
122.5°	466.7	466.1	465.5	464.8	464.1	463.5	462.8	462.2
125°	515.2	514.9	514.5	514.1	513.8	513.4	513.1	512.7
127.5°	561.6	561.3	560.8	560.5	560.3	559.9	559.7	559.4
130°	594.2	593.8	593.5	592.9	592.2	591.4	590.7	590.0
132.5°	624.8	624.4	624.0	623.7	623.4	623.1	622.8	622.6
135°	670.7	670.3	669.9	669.4	669.0	668.4	667.8	667.3
137.5°	715.0	714.5	714.1	713.9	714.0	714.1	714.2	714.4
140°	744.3	744.0	743.9	743.7	743.6	743.3	743.1	743.0
142.5°	771.8	771.8	771.8	771.8	771.8	771.7	771.7	771.6
145°	813.4	813.3	813.0	812.7	812.1	811.6	811.1	810.5
147.5°	851.1	850.9	850.8	850.6	850.4	850.3	850.1	849.9
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

(END OF REPORT)